PATENT CLAIMS

1. Gas sensor having first and second sensor regions responding to at least one reactive exhaust gas constituent and having a catalytic agent for converting reactive exhaust gas constituents with a higher catalytic activity in said first sensor region, ~~characterized in that~~ the first sensor region comprises pores in which traces of at least one catalytically active substance are present as catalytic agent.

2. Gas sensor according to ~~the preceding claim~~ wherein the second sensor region also comprises pores and the concentration of catalytically active substance is lower than in the first layer.

3. Gas sensor according to ~~the preceding claim~~, wherein the concentration of catalytically active substance in the second sensor region is zero.

4. Gas sensor according to one of the preceding claims, wherein a platinum metal is employed as catalytically active material, this being produced, in particular, by thermolysis of a platinum-containing compound introduced in fluid form into the pores.

5. Gas sensor according to one of the preceding claims, wherein the sensor region is realized by a resistive semiconductor layer.

6. Gas sensor according to ~~one of the preceding claims~~, wherein the sensor region is manufactured as semiconductor thick-film, particularly by silk-screening upon pore formation.

7. Gas sensor according to ~~one of the preceding claims~~, wherein the sensor region is manufactured of strontium titanate.

8. Gas sensor arrangement having a gas sensor according to ~~one of the preceding claims with~~ a parallel evaluation circuit for parallel evaluation of the resistance values of both sensor regions.

9. Method for the employment of a gas sensor having two resistive sensor regions for at least one reactive exhaust gas constituent and having a catalytic agent for converting the reactive exhaust gas constituent with higher catalytic activity at the one sensor region at lambda probe, characterized in that the sensor signals of both sensor regions changing with the exhaust gas mixture are evaluated such in parallel that the overall signal change of the parallel evaluation signal is dominated by changes of the first sensor signal in a first exhaust gas mixture range and is dominated by changes of the second sensor signal in a second exhaust gas mixture range.

10. Method according to the preceding claim, wherein the two sensor signals are directly or indirectly supplied to a logic circuit, a finding is made with the logic circuit on the basis of at least one sensor signal as to whether the exhaust gas mixture lies in the first or second exhaust gas mixture range, and an output signal is output in response to the finding, said output signal being dependent only on the first sensor signal in the first exhaust gas mixture range and being dependent only on the second sensor signal in the second exhaust gas mixture range.

11. Method according to the preceding claim, wherein the indirect supply of the sensor signal to the logic circuit comprises that the sensor signals are amplified and/or digitalized.

12. Method according to claim 9, wherein both sensor regions are connected parallel for operation.